

Structural Characterization and Geotectonic Significance of the Continental Cretaceous Depocenters in the Central-Western Argentina

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From subsurface data (seismic and wells) the rift geometry and tectosedimentary characteristic of the continental Cretaceous records in the General Levalle, Macachín, Junín, and Saliniana basins, located in the central-western part of Argentina is described. The aim of this contribution is also to interpret their connections with contemporary deposits of the Chacoparaná basin and the isolated outcrops corresponding to the Sierra de Los Cóndores, Saldán, Sierra del Pajarillo and Estancia del Rosario units (Sierra de Córdoba), El Gigante Gr. (Sierra de las Quijadas), Cerro Rajado Fm. (Bolsón de Pagancillo), and Río Belén Gr. (Catamarca).

If all the Cretaceous continental depocenters are analyzed as a whole, three wide N-S trending belts that express different geotectonic and sedimentary settings can be sketched:

a) Eastern shallow and large intracratonic sag basin (Chacoparaná) that represents the western portion of the Paraná basin.

b) Central corridor of deep and narrow N-S trending rifts (General Levalle, Macachín, Junín, and Saliniana) that shows marine relationship with the adjacent Salta basin (towards Northern extreme) and Salado and Colorado basins (towards Southern extreme). The central portion of this corridor (Sierras Pampeanas) shows strong Andean inversion with scarce volcanoclastic Cretaceous records into crystalline basement depressions. c) Western shallow half grabens controlled towards the West by the Desaguadero-Valle Fértil Lineament (El Gigante Gr. and Cerro Rajado Fm) and the Tucumán Lineament (Río Belén Gr.).